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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	)	
Donald Norman Spitz, et al.	)	
Serial No.: 10/023,294	)	Group: 2853
Filed: December 17, 2001	)	
Title: CHIMNEY FOR PREVENTING INK MISTING	)	Examiner: L. Liang

LETTER

MS APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed herewith, in triplicate, is the Brief of Appellant in the above-identified patent application. The ($330.00) fee is enclosed.

In the event Appellants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Appellants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450, on: January 12, 2004.

Ronald K. Aust, Reg. No. 36,735
Name of Registered Representative

Signature

January 12, 2004
Date

2001-0617.00/LII0403.US

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BRIEF OF APPELLANT

MS APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is taken from the decision of the Examiner, dated July 29, 2003, finally rejecting claims 1-31, all of the claims that are under consideration in the above-captioned patent application. Appellants timely filed a Notice of Appeal in this matter on November 25, 2003, with a Petition for Extension of Time, extending the time for response to November 29, 2003.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Lexmark International, Inc., a corporation organized and existing under the laws of the State of Delaware, which owns the entire interest in this patent application as set forth in the underlying claimed invention.

II. RELATED APPEALS AND INTERFERENCES

No related Appeals or Interferences are known to the Appellants.

III. STATUS OF CLAIMS

Pending: 1-31.

Canceled: None.

Allowed: None.

Objected To: None.

Rejected: 1-31.

Withdrawn from Consideration: None.

On Appeal: 1-31.

IV. STATUS OF AMENDMENTS

A Response Under 37 CFR 1.116 was submitted in this case on September 29, 2003, in response to the final rejection in the Office Action of July 29, 2003. The Response was considered, as indicated in the Advisory Action of October 10, 2003.

V. SUMMARY OF INVENTION

The present invention relates generally to an ink jet printer, and, more particularly, to a maintenance station, i.e., a service station, for an ink jet printer.

A printer 71 includes a printhead 70, and a maintenance station, i.e., a service station, 38. The maintenance station 38 may include a movable sled 40, a spit containment device 42, and a fixed support housing 44. (Fig. 10; page 4, ll. 10-13; page 4, ll. 32-33). The sled 40 is supported on the support housing 44 and is movable relative to support housing 44 in both a horizontal direction and a vertical direction. (Fig. 6; page 4, ll. 15-16). Spit containment device 42 is configured to receive ink spit from printhead 70. (Page 5, ll. 3-5). Spit containment device 42 has a fixed vertical position relative to printhead 70 and is horizontally movable in response to movement of sled 40. (Figs. 7-10; page 4, ll. 22-23; page 4, l. 4-page 5, l. 1).

Spit containment device 42 may be a chimney 42. (Page 4, ll. 11-12). Support housing 44 is coupled to chimney 42. The coupling of support housing 44 to chimney 42 prevents chimney 42 from moving in the vertical direction relative to support housing 44. (Page 4, ll. 28-30). Support housing 44 includes at least one substantially horizontal slot 68, and chimney 42

has at least one projection 62 that is received in the at least one slot 68. (Page 4, ll. 26-28). The slot 68 is substantially parallel to the horizontal direction. (Page 4, ll. 30-31).

Sled 40 includes an opening 48, the chimney 42 being received in opening 48. (Page 4, ll. 14-15). The opening 48 includes at least one substantially vertical slot 50, the chimney 42 having at least one substantially vertical rib 58, each said rib 58 being received in a corresponding said vertical slot 50. (Page 4, l. 15; page 4, ll. 19-21).

During operation, for example, when carrier 74 of ink jet printer 71 comes back to the home position, it contacts sled 40, which begins to slide up ramps 64 in housing 44. As sled 40 moves horizontally and vertically upward relative to housing 44, chimney 42 slides horizontally along rails 66. Sled 40 includes a vertical surface 76, facing opening 48, which engages chimney 42 and pushes chimney 42 along rails 66. Rails 66 retain chimney 42 at a constant vertical position as projections 62 of posts 60 slide horizontally along slots 68 of rails 66. Sled 40 is free to slide vertically relative to chimney 42 by virtue of the four slots 50 of sled 40 sliding over the four ribs 58 of chimney 42. Thus, as sled 40 moves to the left and upward, chimney 42 just translates to the left, remaining in the same vertical position with respect to printhead 70, as illustrated in Figs. 11 and 12. By sliding vertically relative to sled 40, chimney 42 is able to remain clear of printhead 70. (Page 5, ll. 25-26).

Further attached to sled 40 is at least one of a printhead cap 26 and a printhead wiper 28. (Page 4, ll. 16-17). Chimney 42 is disposed adjacent to said at least one of printhead cap 26 and printhead wiper 28. (Page 4, ll. 23-24). In one embodiment, a gap between chimney 42 and printhead 70 is not greater than approximately 1.0 mm when chimney 70 receives the ink spit from printhead 70. (Page 5, ll. 1-5).

VI. ISSUES

1. Whether claims 1, 11 and 22 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by Johnson, et al. (U.S. Patent No. 6,402,290 B1).

2. Whether claims 2-10, 12-20 and 23-31 are unpatentable under 35 U.S.C. § 103(a) over Johnson, et al. in view of Lou, et al. (U.S. Patent No. 5,997,128).

3. Whether claim 21 is unpatentable under 35 U.S.C. § 103(a) over Johnson, et al. in view of Lou, et al., and further in view of Vega, et al. (U.S. Publication No. 2002/0158941 A1.

VII. GROUPING OF CLAIMS

Appellants submit that claims 1-31 do not stand or fall together. Rather, Appellants submit the following groups of claims:

Claims 1-4, 7, 9-14, 17, 19, 20, 22-25, 28, 30 and 31 stand or fall together;

Claims 5, 6, 15, 16, 26 and 27 stand or fall together.

Claims 8, 18 and 29 stand or fall together.

Claim 21 stands alone.

VIII. ARGUMENT

A. CLAIMS 1, 11 and 22 ARE PATENTABLE UNDER 35 U.S.C. 102(e).

In the Final Office Action dated July 29, 2003, claims 1, 11 and 22 were rejected under 35 U.S.C. § 102(e) as being anticipated by Johnson, et al. (U.S. Patent 6,402,290 B1). However, Appellants submit that claims 1, 11 and 22 are not taught, disclosed or suggested by the cited reference and are therefore in condition for allowance.

1. JOHNSON, ET AL.

Johnson, et al., is directed to a replaceable inkjet printhead cleaner service station system including a capping system that compensates for spacing variations between the cap

and the printhead (col. 1, lines 9-15). Johnson, et al., discloses a service station 70, including a translationally moveable pallet 72, that is selectively driven in a forward direction 76 and in a rearward direction 78 (col. 7, lines 33-36). Four replaceable inkjet printhead cleaner units 80, 82, 84, 86 are installed into pallet 72 (col. 7, lines 38-45). The printhead cleaner units are described with reference to a generic cleaner unit 100, that includes a base 102 (Fig. 3; col. 7, line 61). Base 102 includes a spittoon chamber 108 and four cam surfaces or cap ramps 110, which are used during the printhead capping and uncapping process (col. 8, lines 2-5). A cap sled 150 has four cam followers 152 which ride along the cap ramps or cams 110 of base 102 and has an activation wall 151 with a rear surface that engages the printhead (col. 9, lines 14-19). Movement of pallet 72 in direction 78 moves spittoon chamber 108 in direction 78 and elevates the cap sled 150, as cap sled 150 engages the printhead (col. 15, lines 54-57). Movement of pallet 72 in the direction 76 moves spittoon chamber 108 in direction 76, and cap sled 150 is lowered. In no case is movement of spittoon chamber 108 in response to movement of cap sled 150.

2. CLAIMS 1, 11 and 22 ARE PATENTABLE OVER JOHNSON, ET AL.

Each of claims 1 and 11 recite, in part, a maintenance station, including "a fixed support housing; a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and a spit containment device configured to receive spit ink, said spit containment device having a fixed vertical position and being horizontally movable in response to movement of said sled." Claim 22 recites, "a fixed support housing; a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and a spit containment device configured to receive spit ink, said spit containment device having a fixed vertical position and being horizontally movable relative to said support housing."

In contrast, Johnson, et al., discloses a pallet 72 that is moveable in only the horizontal direction, the pallet 72 holding base 102 that includes a spittoon chamber 108 and cams 110 (see Johnson, et al. Fig. 3), wherein the cap sled 150 is elevated by rearward motion of pallet 72 as cam followers 152 of sled 150 ride along cams 110 of base 102. Rather than the spittoon chamber 108 being movable in response to the movement of cap sled 150, however, spittoon chamber 108 is moved in response to movement of pallet 72, regardless of horizontal movement or non-movement of cap sled 150 during the translation of pallet 72.

Accordingly, Johnson, et al., does not disclose a fixed support housing and a spit containment device configured to receive spit ink, the spit containment device having a fixed vertical position and being horizontally movable in response to movement of the sled, as recited in claims 1 and 11; nor does Johnson, et al. disclose a fixed support housing and a spit containment device configured to receive spit ink, said spit containment device having a fixed vertical position and being horizontally movable relative to the support housing, as recited in claim 22.

3. RESPONSE TO EXAMINER'S ARGUMENTS WITH RESPECT TO CLAIMS 1, 11 AND 22.

The Examiner relies on the base 102 of Johnson, et al. to correspond to Appellants' recited fixed support housing, (see, Final Office Action of July 29, 2003, page 2), and the structure of reference 108 to correspond to Appellants' recited spit containment device (see Final Office Action, page 3). However, Johnson, et al. discloses a generic cleaner unit assembly 100, including cleaner units 80-86, that includes base 102 defining the spittoon chamber 108 (containing pad 124). Johnson, et al. col. 7, ll. 33-45, ll. 57-60; col. 8, ll. 2-6. Even if the Examiner's assertion is accurate, then, spittoon 108 is in fixed relation with respect to base 102, unlike the spit containment device of claims 1, 11 and 22. It is clear from

Johnson, et al. Figs. 3, 4 and 5 that spittoon chamber 108 does not move horizontally relative to base 102, nor does spittoon chamber 108 move in response to movement of sled 150, since in Johnson, et al. base 102 and spittoon chamber 108 form a unitary structure.

Further, Appellants submit that in contrast to a fixed support, as recited in claims 1, 11 and 22, Johnson, et al., discloses a service station 70 including a translationally moveable pallet 72 that holds base 102, which is selectively driven in a forward direction 76 and in a rearward direction 78 (col. 7, lines 33-36). Thus, rather than a fixed support housing, base 102 is installed into a translationally moveable pallet 72, and is thus a moveable support. In turn, rather than a sled supported on a fixed support housing, as recited in claims 1, 11 and 22, the Johnson, et al., cap sled 150 is supported on translationally moveable pallet 72.

The Examiner asserts in the Final Office Action of July 29, 2003, at page 6, that in Johnson, "the movement of the pallet is dependent upon the movement of the sled." The Examiner further states that, "Since the movement of the spit containment device is dependent on the movement of the pallet, it can also be considered that the movement of the pallet is dependent on the movement of the sled." (Emphasis Added). Such an assertion, however, is simply incorrect, and is inconsistent with the teaching of Johnson, et al. for the reasons that follow.

As disclosed in Johnson, Figs. 2, 4 and 5, pallet 72 supports cleaner unit 86, included in a generic cleaner unit assembly 100 that includes a base 102 that defines a spittoon chamber 108 and defines cap ramps 110 which in turn support cap sled 150 (having cam followers 152). Johnson, et al. Figs. 2, 3; col. 7, ll. 33-45, ll. 57-60; col. 8, ll. 2-6; col. 9, ll. 14-19. It is further disclosed in Johnson, et al., "Use of the cam surfaces 110, 182 and cam followers 152 advantageously eliminates the need for two axis service station actuation because capping is achieved through pure linear motion of pallet 72, without requiring

rotation or combinations of rotational and translating motion to achieve capping." (See, Johnson, et al., column 15, lines 60-65; emphasis added). As such, base 102 moves with pallet 72 since base 102 is held by pallet 72, and movement of pallet 72 results in movement of cap sled 150, but clearly there is no interaction between cap sled 150 and spittoon chamber 108, let alone an interaction that would result in the "spit containment device .... being horizontally movable in response to movement of said sled", as recited for example, in claims 1 and 11.

Thus, contrary to the Examiner's contentions, it cannot also be considered that the movement of the pallet is dependent on the movement of the sled. Rather, it is clear from Johnson, et al. that the opposite is true: in Johnson, et al., the sled movement is dependent on the movement of the pallet, and thus, in Johnson, et al. *movement of cap sled 150 is in response to movement of base 102 (with unitary spittoon 108)*, which is the opposite of Appellants' claimed invention.

Accordingly, Johnson, et al. does not, and cannot, disclose, teach or suggest a spit containment device having a fixed vertical position and being horizontally movable in response to movement of said sled, as recited in claims 1 and 11.

Further, in the Final Office Action of July 29, 2003, page 6, the Examiner asserts that "base 102 does provide support for the sled." However, as shown in Johnson, et al. Fig. 3, spittoon chamber 108 is fixed in relation to base (support housing) 102, since they form a unitary structure. Accordingly, Johnson, et al. does not disclose a spit containment device having a fixed vertical position and being horizontally movable relative to the support housing, as recited in claim 22.

Therefore, for at least the reasons set forth above, Appellants submit that claims 1, 11, and 22 are in condition for allowance in their present form. Further, Appellants submit that

claims 2-10, 12-21 and 23-31 are also in condition for allowance due to their dependence on allowable base claims 1, 11 and 22, respectively.

B. CLAIMS 2-10, 12-20 and 23-31 ARE PATENTABLE UNDER 35 U.S.C. 103(a).

In the Final Office Action dated July 29, 2003, claims 2-10, 12-20 and 23-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnson, et al. (U.S. Patent 6,402,290 B1) in view of Lou, et al. (U.S. Patent No. 5,997,128). However, Appellants submit that claims 2-10, 12-20 and 23-31 are in condition for allowance in their present form.

1. JOHNSON, ET AL.

The disclosure of Johnson, et al. is described above in section (VIII)(A)(1), and for brevity will not be repeated here.

2. LOU, ET AL.

Lou, et al., is directed to a translational printhead servicing station and method for maintaining inkjet printhead health (col. 1, lines 6-8). Lou, et al., discloses, as prior art, spittoon designs including tall narrow designs having a chimney through which ink is spit (col. 2, lines 8-9). The Lou, et al., apparatus includes a translational service station 45, having a frame 46 including a stationary base 60, and two sliding platforms, pallets, or shuttles, here a cap shuttle 62 and a primer shuttle 64, joined together to define a collapsible spittoon 65 (col. 6, lines 56-61). Lou, et al, also discloses an auxiliary spittoon chimney 200 defined by a U-shaped channel wall 202, extending upwardly from the service station base 60, and the surface the inboard sidewall 67 which faces toward the printzone 25 (col. 12, lines 47-50).

3. CLAIMS 2-10, 12-20 and 23-31 ARE PATENTABLE OVER JOHNSON, ET AL. IN VIEW OF LOU, ET AL.

Claims 2-10 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 1. In addition, claims 2-10 further and patentably define the

invention over the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination.

Claims 12-20 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 11. In addition, claims 12-20 further and patentably define the invention over the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination.

Claims 23-31 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 22. In addition, claims 23-31 further and patentably define the invention over the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination.

Claims 5, 15 and 26, recite that "said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot." Appellants submit that the cited references, taken alone or in combination, do not disclose, teach, or suggest wherein the support housing includes at least one substantially horizontal slot, the chimney having at least one projection received in the at least one slot.

For this horizontal slot structure recited in claims 5, 15 and 26, in the Final Office Action of July 29, 2003, the Examiner relies on the "reference 108" of Johnson, et al. However, in Johnson, et al., reference 108 is the "spittoon chamber" that is formed as a unitary structure with support housing 102 (see Johnson, et al. Fig. 3).

In addition, Appellants respectfully submit that Lou, et al., does not disclose, teach, or a support housing that includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot, as recited in claims 5, 15 and 26. Rather, Lou, et al., discloses a collapsible spittoon 65 (col. 6, lines 60-61), and that an "auxiliary spittoon chimney 200 is defined by a U-shaped channel wall 202, extending

upwardly from the service station base 60, and the surface the inboard sidewall 67 which faces toward the printzone 25." (Lou, et al. col. 12, lines 47-50).

Accordingly, claims 5, 15 and 26 are believed allowable in their own right.

Claims 6, 16 and 27 further define the orientation of the horizontal slot(s) in the support housing that receives each projection of the chimney, and thus are believed allowable for the reasons set forth above with respect to claims 5, 15 and 26, as well as due to their dependence from their respective intervening claims 5, 15 and 26.

Claim 8 is directed to the maintenance station of claim 7, "wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot." Claim 18 depends from claim 17, and recites the same language as in claim 8. Claim 29 depends from claim 28, and recites the same language as claim 8.

Rather than an opening that includes at least one substantially vertical slot, the chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot, as recited in claims 8, 18 and 29, Johnson, et al., discloses a cap sled 150 which has four cam followers 152 which ride along the cap ramps or cams 110, 182 (see Fig. 8; col. 9, lines 14-19; col. 15, lines 54-57). Appellants respectfully submit that a cap sled having cam followers received on cam surfaces does not disclose, teach, or suggest structure wherein the opening in the sled that receives the chimney includes at least one substantially vertical slot, the chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot.

In addition, Appellants respectfully submit that Lou, et al., does not disclose, teach, or suggest such structure, wherein the opening in the sled that receives the chimney includes at least one substantially vertical slot, the chimney having at least one substantially vertical rib,

each said rib being received in a corresponding said vertical slot. Rather, Lou, et al., discloses a collapsible spittoon 65 (col. 6, lines 60-61), and "an auxiliary spittoon chimney 200 defined by a U-shaped channel wall 202, extending upwardly from the service station base 60, and the surface the inboard sidewall 67 which faces toward the printzone 25." (Lou, et al. col. 12, lines 47-50).

Accordingly, claims 8, 18 and 29 are believed allowable in their own right.

Accordingly, for at least the reasons set forth above, Appellants believe that claims 2-10, 12-20, and 23-31 are in condition for allowance in their present form.

4. RESPONSE TO EXAMINER'S ARGUMENTS WITH RESPECT TO CLAIMS 2-10, 12-20 AND 23-31.

In a change from a previous interpretation of Johnson, et al., in the Final Office Action of July 29, 2003, page 6, the Examiner asserts that with regard to claims 5, 8, 15, 18, 26 and 29, "spittoon 108 [of Johnson, et al.] is viewed as the slot, and the chimney of Lou introduces serves (sic.) as the projection/rib being received by the existing slot. The broad claims would also allow ink drops to be viewed as a projection received by the spittoon slot (though this interpretation was not used in the above rejection)." In the Final Office Action at page 5, the Examiner states that, "The combination [of Lou, et al. with Johnson, et al.] naturally suggests the chimney having at least one projection received in the at least one slot and the chimney having at least one substantially vertical rib, the rib being received in a corresponding slot . . . ." Appellants respectfully disagree with the Examiner's assertions.

As a starting point, Appellants note that claims 5, 8, 15, 18, 26 and 29 do not recite the same slots. Claims 5, 15 and 26 recite that the "support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot." (Emphasis added). Claims 8, 18 and 29 recite that the "opening [in the sled

supported on the support housing] includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot." (Emphasis added). Thus, the Examiner has overly generalized Appellants' claimed invention to the point of ignoring the specific limitations recited in claims 5, 8, 15, 18, 26 and 29, and their differences.

The Examiner, however, relies on the base 102 of Johnson, et al. as corresponding to the recited support housing, and asserts that spittoon 108, formed in base 102, corresponds to the recited slot, and it is further noted that the Examiner has relied on spittoon 108 to correspond to Appellants' recited spit containment device. As noted above, however, Johnson, et al. , Fig. 3, clearly shows that base 102 and spittoon 108 form a unitary structure. The Examiner, however, relies on Lou, et al. column 2, lines 6-10 to disclose that it is known that a spittoon can be in the form of a chimney, and asserts that the chimney of Lou, et al. "serves as the projection/rib being received by the existing slot", i.e., inserted into spittoon 108 of Johnson, et al.

To achieve the arrangement asserted by the Examiner, one would have to insert the spittoon chimney of Lou, et al., which the Examiner fails to specifically identify, into the spittoon 108 of Johnson, et al. The references clearly provide no suggestion to make such a combination.

To suggest that one would be motivated to insert "the chimney" of Lou, et al. into the spittoon 108 of Johnson, et al. in attempting to achieve the claimed invention is tantamount to hindsight reconstruction of Appellants' claimed invention. "It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps." *In re Gorman*, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion or teaching of making the specific combination that is made by the Applicant. *In re Dance*, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998). The cited references fail to provide any motivation for their combination, and there simply is no reason one skilled in the art would be motivated to make such a combination, since each reference discloses structure to perform its respective spittoon function.

Accordingly, for at least the reasons set forth above, Appellants submit that claims 2-10, 12-20, and 23-31 are in condition for allowance in their present form.

C. CLAIM 21 IS PATENTABLE UNDER 35 U.S.C. 103(a).

In the Final Office Action dated July 29, 2003, claim 21 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnson, et al. (U.S. Patent 6,402,290 B1) in view of Lou, et al. (U.S. Patent No. 5,997,128), and further in view of Vega, et al. (U.S. Patent Application Publication No. 2002/0158941 A1). However, Appellants submit that claim 21 is in condition for allowance in its present form.

1. JOHNSON, ET AL.

The disclosure of Johnson, et al. is described above in section (VIII)(A)(1), and for brevity will not be repeated here.

2. LOU, ET AL.

The disclosure of Lou, et al. is described above in section (VIII)(B)(2), and for brevity will not be repeated here.

3. VEGA, ET AL.

Vega, et al., is directed to a print nozzle servicing mechanism (page 1, paragraph 0001). Vega, et al., discloses that ink drops ejected from any nozzle of any of the six printheads will be directed towards, and will impact against the horizontal, planar surface 82

of the spitting frame 80, and in the Vega, et al., embodiment, the preferred distance between the nozzle plate of each printhead and the surface 82 when it is positioned horizontally as shown in Fig. 3a (i.e. "spitting distance") is approximately 6 mm (page 4, paragraph 55). Vega, et al, discloses that this distance reduces the aerosol effect experienced when spitting to a satisfactory level (page 4, paragraph 55). Vega, et al., also discloses, in paragraph 0056, bridging pages 4 and 5, the following. If the "spitting distance" is reduced much beyond 6 mm, the aerosol effect is increased when spitting frame is manufactured from a hard plastic material, due to the ink drops splashing against the spitting frame surface. However, if the surface of the spitting frame is made from a softer material, such as foam, the spitting distance may be reduced to approximately 1 mm. Vega, et al., also discloses that the "spitting distance" may be increased to 10 mm or more whilst continuing to reduce the aerosol effect in a beneficial, although reduced manner.

4. CLAIM 21 IS PATENTABLE OVER JOHNSON, ET AL. IN VIEW OF LOU, ET AL, AND FURTHER IN VIEW OF VEGA.

Claim 21 is directed to the printer of claim 12, wherein a gap between said chimney and said printhead is not greater than approximately 1.0 mm when said chimney receives the ink spit from said printhead. Claim 12, in turn, depends from claim 11. Vega, et al. fails to fill the deficiencies of Johnson, et al., and Lou, et al., with respect to claim 11. Accordingly, claim 21 is believed allowable due to its dependence from base claim 11.

Further, in contrast to claim 21, Vega, et al. fails to disclose a chimney, let alone a chimney positioned such that the gap between the chimney and the printhead is not greater than approximately 1.0 mm. Vega, et al., discloses that ink drops ejected from any nozzle will impact against the horizontal, planar surface 82 of the spitting frame 80. In view of the structural differences between Vega, et al. and Johnson, et al. or Lou, et al. one would not be

motivated to combine the teachings of Vega, et al. with Johnson, et al. and Lou, et al. to form a gap between a chimney and a printhead not greater than approximately 1.0 mm.

Accordingly, for at least the reasons set forth above, Appellants submit that claim 21 is in condition for allowance in its present form, and thus respectfully request that the rejection of claim 21 under 35 U.S.C. 103(a) be withdrawn.

IX. CONCLUSION

For the foregoing reasons, Appellants submit that claims 1-31 are in condition for allowance in their present form. Accordingly, Appellants respectfully request the Board to reverse the final rejections of the appealed claims.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450, on: January 12, 2004.

Ronald K. Aust, Reg. No. 36,735
Name of Registered Representative

Ronald K. Aust
Signature

January 12, 2004
Date

X. APPENDIX

1. A maintenance station for a printer, comprising:

a fixed support housing;

a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and

a spit containment device configured to receive spit ink, said spit containment device having a fixed vertical position and being horizontally movable in response to movement of said sled.

2. The maintenance station of claim 1, wherein said spit containment device comprises a chimney.

3. The maintenance station of claim 2, wherein said support housing is coupled to said chimney.

4. The maintenance station of claim 3, wherein said coupling of said support housing to said chimney prevents said chimney from moving in the vertical direction relative to said support housing.

5. The maintenance station of claim 4, wherein said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot.

6. The maintenance station of claim 5, wherein said slot is substantially parallel to the horizontal direction.

7. The maintenance station of claim 2, wherein said sled includes an opening, said chimney being received in said opening.

8. The maintenance station of claim 7, wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot.

9. The maintenance station of claim 2, further comprising at least one of a printhead cap and a printhead wiper attached to said sled.

10. The maintenance station of claim 9, wherein said chimney is disposed adjacent to said at least one of a printhead cap and a printhead wiper.

11. An ink jet printer, comprising:

a printhead; and

a maintenance station including:

a fixed support housing;

a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and

a spit containment device configured to receive ink spit from said printhead, said spit containment device having a fixed vertical position relative to said printhead and being horizontally movable in response to movement of said sled.

12. The printer of claim 11, wherein said spit containment device comprises a chimney.

13. The printer of claim 12, wherein said support housing is coupled to said chimney.

14. The printer of claim 13, wherein said coupling of said support housing to said chimney prevents said chimney from moving in the vertical direction relative to said support housing.

15. The printer of claim 14, wherein said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot.

16. The printer of claim 15, wherein said slot is substantially parallel to the horizontal direction.

17. The printer of claim 12, wherein said sled includes an opening, said chimney being received in said opening.

18. The printer of claim 17, wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot.

19. The printer of claim 12, further comprising at least one of a printhead cap and a printhead wiper attached to said sled.

20. The printer of claim 19, wherein said chimney is disposed adjacent to said at least one of a printhead cap and a printhead wiper.

21. The printer of claim 12, wherein a gap between said chimney and said printhead is not greater than approximately 1.0 mm when said chimney receives the ink spit from said printhead.

22. A maintenance station for a printer, comprising:

a fixed support housing;

a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and

a spit containment device configured to receive spit ink, said spit containment device having a fixed vertical position and being horizontally movable relative to said support housing.

23. The maintenance station of claim 22, wherein said spit containment device comprises a chimney.

24. The maintenance station of claim 23, wherein said support housing is coupled to said chimney.

25. The maintenance station of claim 24, wherein said coupling of said support housing to said chimney prevents said chimney from moving in the vertical direction relative to said support housing.

26. The maintenance station of claim 25, wherein said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot.

27. The maintenance station of claim 26, wherein said slot is substantially parallel to the horizontal direction.

28. The maintenance station of claim 23, wherein said sled includes an opening, said chimney being received in said opening.

29. The maintenance station of claim 28, wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot.

30. The maintenance station of claim 23, further comprising at least one of a printhead cap and a printhead wiper attached to said sled.

31. The maintenance station of claim 30, wherein said chimney is disposed adjacent to said at least one of a printhead cap and a printhead wiper.